

**BMDO/POI
FY 1996/1997
Information Technology Biennial Budget Estimates
(February 1995)**

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INDEX OF EXHIBITS

	<u>PAGE</u>
EXHIBIT 43ES EXECUTIVE SUMMARY	1
EXHIBIT 43 REPORT ON INFORMATION TECHNOLOGY RESOURCES	4
EXHIBIT 43 (IT-1) INFORMATION TECHNOLOGY RESOURCES BY CIM FUNCTIONAL AREA	
FINANCE	5
HUMAN RESOURCES	
LOGISTICS	
OTHER	
PROCUREMENT/CONTRACT ADMINISTRATION	
SCIENCE AND TECHNOLOGY	
SYSTEM ACQUISITION MANAGEMENT	
TEST AND EVALUATION	
INFORMATION MANAGEMENT	
CIM TOTAL	
EXHIBIT 43 (IT-2) DESCRIPTIVE SUMMARY NATIONAL TEST FACILITY	10

Ballistic Missile Defense Organization
Executive Summary
FY 1996/1997 Biennial Budget Estimates

1. BMDO PROGRAM MISSION

The mission of the Ballistic Missile Defense (BMD) program is to research, develop, and acquire systems and technologies which provide ballistic missile defense. The Ballistic Missile Defense Organization (BMDO) is established as a separate agency of the Department of Defense (DoD) under the direction, authority, and control of the Under Secretary of Defense for Acquisition and Technology (USD(A&T)). The current focus of the BMD program is to achieve a balanced approach toward acquiring capabilities needed to support the warfighter as soon as prudently possible within affordability constraints. BMDO will provide Theater Missile Defense material for field use throughout the next decade. BMDO will also maintain technological readiness needed for National Missile Defense and support future missile defense options and other critical active defense missions. In this way, BMDO ensures that active missile defense is retained as an essential insurance policy for counter proliferation.

The Information Technology programs undertaken as part of this program directly supports the BMD mission. Individual Budget Exhibit 43 submissions are requested and received from each ballistic missile defense activity. These submissions provide detailed Information Technology (IT) resource budgetary estimates that support preparation of the consolidated BMD submissions.

2. MAJOR INITIATIVES THAT INFLUENCE THE INFORMATION TECHNOLOGY BUDGET ESTIMATE

Major initiatives that influence the Information Technology budget include the following core resources and capabilities needed to support the BMD Program:

- a. BMDO Headquarters: Headquarters provides an integrated program management system in support of the BMD mission and the operation of the BMDO. This includes completing the development by BMDO Headquarters of the Support and Programmatic Integrated Management System (SPIMS) capability. SPIMS provides comprehensive automated program management and administrative support to BMDO. It provides access to planning, financial, program management, contract-related, and administrative data via on-line computer workstations, as well as printed reports and graphics. The SPIMS development strategy emphasizes the use of commercial-off-the-shelf (COTS) products and, where available, Government-off-the shelf (GOTS) applications to optimize performance. SPIMS software applications are designed to enhance the abilities of BMDO management, technical staff, planners, analysts, and administrative personnel.

- b. National Test Facility (NTF): The NTF provides a comprehensive simulation environment to support ballistic missile defense design, development, and follow-on operational test and evaluation activities. It provides US Space Command, the individual service space commands, and the various theater commanders-in-chief with real-time simulations to explore ballistic missile defense operational concepts and orders of battle. The NTF supports the mission evolution from theater missile defense to a more general support for theater commanders, using the full capabilities of space assets.
- c. United States Army Program Executive Office (PEO) Missile Defense (MD): The mission of the Army PEO MD is to conduct a coordinated development program in accordance with Department of Defense, BMDO, and Army guidance to ensure timely and cost effective development of Anti-Tactical Missile (ATM) weapons systems. The PEO MD mission supports the BMDO mission of defending against tactical and ballistic missiles. Primary Information Technology IT activities include providing automated services for data gathering, processing, storing, sharing, and retrieving information for the users to promote efficient and effective use of information. Information management services provides support for the financial, contractual, personnel, logistics, and administrative aspects of project management in the oversight of multiple research contracts and other business needs.

United States Army Space and Strategic Defense Command (USASSDC) - Corporate Information Management System (CIMS) application: The USASSDC business management automation system is the CIMS. The information management services provided by the CIMS support the financial, contractual, personnel, logistics, and administrative aspects of project management in the oversight of multiple research contracts and other critical business needs related to BMD research. Also, the CIMS provides the capability of facilitating BMD research by providing automated storage and retrieval of technical documents in the USASSDC Technical Library.

Advanced Research Center (ARC): The USASSDC Advanced Research Center is a reconfigurable, multiple experiment test bed sufficiently comprehensive to participate as a principal node of the National Test Bed and to support the technology research and development needs as well as experimentation activities within the BMDO. Some 146 computer systems are operated and maintained, supporting approximately 1,000 users primarily under contract to USASSDC, performing software design, development and hardware/software modeling simulation verification for various BMD ground-based elements. From June 1993 to June 1994, more than 825 demonstrations and experiments were conducted in support of reviews, meetings, and conferences at the Advanced Research Center.

Simulation Center (SC): The USASSDC SC is a self contained, fully operational Computer Information Center that provides approximately 600 BMDO users and over

70 BMDO contractors/activities a centralized resource for classified and unclassified supercomputer processing, parallel processing, data visualization, modeling and simulation, network communications, testbed support, software development and technical and administrative support services. As a networked tail of the USASSDC Advanced Research Center (ARC), the SC participates as a node of the National Testbed. The SC operates and maintains over 20 major computers systems, including three Cray systems to support a multitude of BMDO development, test and implementation requirements. The SC also operates and maintains approximately 40 Macintosh/PCs/servers to support users technical, security and administration requirements. From June 1993 to June 1994, approximately 250 demonstrations, experiments, reviews, meetings, training classes and conferences were conducted at the SC to support a variety of BMDO activities.

- d. Air Force: The AF BMD activities define, design, acquire and support integrated information technology systems and integrated database management for the Air Force Ballistic Missile Defense Program Office. Major initiatives supported include information technology strategic planning and reengineering; network analysis, maintenance, and management; integrated client/server database; graphical user interfaces; personal computer acquisition and maintenance; and information technology training.
- e. Navy: The mission of the Navy Background Data Center is to assist in the evaluation of defense system feasibility, development and deployment in support of the BMD missions. The IT program, managed by the Naval Research Laboratory, has two primary functions: to conduct data archiving, management and database characterization activities in support of BMD research; and to provide user support functions for researchers.

3. DEVIATIONS OF 30% OR MORE FROM THE FY95 PRESIDENT'S BUDGET SUBMISSION

There are no deviations of 30 percent or more from the FY95 Total BMD IT PBS.

Ballistic Missile Defense Organization
Report on Information Technology Resources
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
1 <u>Equipment (\$000)</u>				
A. Capital Purchases	10,350	2,306	18,216	12,960
B. Purchases/Leases	2,240	1,799	1,788	1,780
Subtotal	12,590	4,105	20,004	14,740
2 <u>Software (\$000)</u>				
A. Capital Purchase	2,767	390	3,836	2,695
B. Purchases/Lease	727	903	958	1,042
Subtotal	3,494	1,293	4,794	3,737
3 <u>Services (\$000)</u>				
A. Communications	832	834	834	834
B. Processing	0	0	0	0
C. Other	1,137	1,000	0	0
Subtotal	1,969	1,834	834	834
4 <u>Support Services (\$000)</u>				
A. Software	7,691	5,469	5,670	5,836
B. Equipment	6,553	6,544	6,494	6,482
C. Other	17,983	15,979	20,000	19,047
Subtotal	32,227	27,992	32,164	31,365
5 <u>Supplies (\$000)</u>	1,181	1,060	1,065	1,069
6 <u>Personnel (Comp./Benefits) (\$000)</u>				
A. Software	500	200	200	200
B. Processing	238	65	65	65
C. Other	1,244	1,605	1,654	1,699
Subtotal	1,982	1,870	1,919	1,964
7 <u>Other (Non-FIP Resources) (\$000)</u>				
A. Capital Purchases	0	0	0	0
B. Other Current	0	0	0	0
Subtotal	0	0	0	0
8 <u>Intra-Government Payments (\$000)</u>				
A. Software	101	95	21	21
B. Equipment	32	52	78	98
C. Processing	9	13	9	8
D. Communications	4,640	2,752	2,708	2,785
E. Other	830	840	922	971
Subtotal	5,612	3,752	3,738	3,883
9 <u>Intra-Government Collections (\$000)</u>				
A. Software	0	0	0	0
B. Equipment	0	0	0	0
C. Processing	0	0	0	0
D. Communications	0	0	0	0
E. Other	0	0	0	0
Subtotal	0	0	0	0
NET IT RESOURCES (sum 1-9 above)	59,055	41,906	64,518	57,592
Workyears	27	26	28	28
Appropriation/Fund: RDT&E	59,055	41,906	64,518	57,592

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Information Technology Resources by CIM Functional Area
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	FY 1994	FY 1995	FY 1996	FY 1997
A. <u>CIM Functional Area: Finance</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization	294	186	195	205
Current Services	2,735	2,479	2,447	2,459
Subtotal	3,029	2,665	2,642	2,664
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Finance</u>				
Total Development/Modernization	294	186	195	205
Total Current Services	2,735	2,479	2,447	2,459
Subtotal	3,029	2,665	2,642	2,664
Total Appropriations/Funds: RDT&E	3,029	2,665	2,642	2,664
B. <u>CIM Functional Area: Human Resources</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization				
Current Services	596	563	552	552
Subtotal	596	563	552	552
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Human Resources</u>				
Total Development/Modernization	0	0	0	0
Total Current Services	596	563	552	552
Subtotal	596	563	552	552
Total Appropriations/Funds: RDT&E	596	563	552	552

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Information Technology Resources by CIM Functional Area
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
<u>C. CIM Functional Area: Logistics</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization				
Current Services	298	281	276	276
Subtotal	298	281	276	276
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Logistics</u>				
Total Development/Modernization	0	0	0	0
Total Current Services	298	281	276	276
Subtotal	298	281	276	276
Total Appropriations/Funds: RDT&E	298	281	276	276
 <u>D. CIM Functional Area: Other</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization	2,153	2,864	25,578	18,049
Current Services	3,469	2,526	2,593	2,680
Subtotal	5,622	5,390	28,171	20,729
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Other</u>				
Total Development/Modernization	2,153	2,864	25,578	18,049
Total Current Services	3,469	2,526	2,593	2,680
Subtotal	5,622	5,390	28,171	20,729
Total Appropriations/Funds: RDT&E	5,622	5,390	28,171	20,729

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Information Technology Resources by CIM Functional Area
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
<u>E. CIM Functional Area: Procurement/Contract Admin.</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization				
Current Services				
Subtotal	1,192	1,125	1,103	1,103
Appropriation/Fund: RDT&E	1,192	1,125	1,103	1,103
4 <u>Total CIM Functional Area: Procurement/Contract Admin</u>				
Total Development/Modernization	0	0	0	0
Total Current Services	1,192	1,125	1,103	1,103
Subtotal	1,192	1,125	1,103	1,103
Total Appropriations/Funds: RDT&E	1,192	1,125	1,103	1,103
<u>F. CIM Functional Area: Science & Technology</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
National Test Facility (NTF)				
Development/Modernization	0	0	0	0
Current Services	18,669	6,781	6,781	6,781
Subtotal	18,669	6,781	6,781	6,781
Appropriation/Fund: RDT&E				
3 <u>All Other</u>				
Development/Modernization	1,645	1,220	1,220	1,200
Current Services	12,354	11,980	10,980	11,000
Subtotal	13,999	13,200	12,200	12,200
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Science & Technology</u>				
Total Development/Modernization	1,645	1,220	1,220	1,200
Total Current Services	31,023	18,761	17,761	17,781
Subtotal	32,668	19,981	18,981	18,981
Total Appropriations/Funds: RDT&E	32,668	19,981	18,981	18,981

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Information Technology Resources by CIM Functional Area
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	FY 1994	FY 1995	FY 1996	FY 1997
<u>G. CIM Functional Area: System Acquisition Management</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization	3,550	2,475	2,606	2,711
Current Services	8,670	6,006	6,689	6,958
Subtotal	12,220	8,481	9,295	9,669
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Systems Acquisition Management</u>				
Total Development/Modernization	3,550	2,475	2,606	2,711
Total Current Services	8,670	6,006	6,689	6,958
Subtotal	12,220	8,481	9,295	9,669
Total Appropriations/Funds: RDT&E	12,220	8,481	9,295	9,669
<u>H. CIM Functional Area: Test & Evaluation</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization	223	50	50	50
Current Services	378	200	200	200
Subtotal	601	250	250	250
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Test & Evaluation</u>				
Total Development/Modernization	223	50	50	50
Total Current Services	378	200	200	200
Subtotal	601	250	250	250
Total Appropriations/Funds: RDT&E	601	250	250	250

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Information Technology Resources by CIM Functional Area
FY 1996/1997 Biennial Budget Estimates
(Dollars in Thousands)

	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
I. <u>CIM Functional Area: Information Management</u>				
1 <u>Major Systems/Initiatives</u>				
None				
2 <u>Non-Major Systems/Initiatives</u>				
None				
3 <u>All Other</u>				
Development/Modernization	0	0	0	0
Current Services	2,829	3,170	3,248	3,368
Subtotal	2,829	3,170	3,248	3,368
Appropriation/Fund: RDT&E				
4 <u>Total CIM Functional Area: Information Management</u>				
Total Development/Modernization	0	0	0	0
Total Current Services	2,829	3,170	3,248	3,368
Subtotal	2,829	3,170	3,248	3,368
Total Appropriations/Funds: RDT&E	2,829	3,170	3,248	3,368
<u>CIM Grand Total</u>				
Total Development/Modernization	7,865	6,795	29,649	22,215
Total Current Services	51,190	35,111	34,869	35,377
Total	59,055	41,906	64,518	57,592
Total Appropriations/Funds: RDT&E	59,055	41,906	64,518	57,592

FY 1994 estimates reflect a \$25 thousand investment/expense threshold; 1995 estimates reflect a \$50 thousand investment/expense threshold; and FY 1996 and outyear estimates adhere to the centrally managed criteria.

Ballistic Missile Defense Organization
Descriptive Summary (IT-2)
FY 1996/1997 Biennial Budget Estimates

- A. AIS Title and Number: National Test Facility, National Test Bed Integration Contract (NTBIC)
- B. CIM Functional Areas: Science and Technology
- C. Life Cycle Cost and Program Cost (in millions of dollars):
1. Then year (Inflated) dollars

Life-cycle cost: Not available*
Program cost: Not available*
 2. Constant base year

Life-cycle cost: Not available*
Program cost: Not available*
 3. Sunk Cost (actual): \$565 (in millions of dollars)
 4. Cost To Complete: \$000 (in millions of dollars)**

* Data not available. Original submission of life cycle costs were developed by the Strategic Defense Initiative Organization and submitted in FY 86-87 when the original concept of operations for the National Test Bed was developed. Documents necessary to accomplish the analysis/projections are not available in the National Test Facility files.

Both life cycle and program costs have never been calculated based solely on information technology. All calculations/analyses/projections have included development of the National Test Bed/National Test Facility capabilities which encompass more than computational systems/infrastructure.

** Final buy-out of depreciated hardware and software were completed in FY 94 and are included in costs shown in the program sunk cost total. FY 95-00 budgets contain no dollars for upgrades or enhancements to existing systems.

D. Cross Reference to Justification Book:

1. Project 3352
2. Appropriation: RDT&E
3. Budget Activity: 4
4. Line items:
 - a) Line item 74 - National Missile Defense: (Program Element 0603871C)***
 - b) Line item 75 - Other Theater Missile Defense (Program Element 0603872C)***

*** The above mentioned program elements for Project 3352 are contained within Exhibit R-2 of the Congressional Justification Book Materials. These program elements only represent the National Test Facility Information Technology costs associated with Project 3352.

E. System Description:

1. The National Test Facility provides a comprehensive simulation environment capable of supporting ballistic missile design, development, and operations. The National Test Facility provides U.S. Space Command, the individual Service Space commands and various theater Commanders-in-Chief with real-time simulations to explore Ballistic Missile Defense operational concepts/order of battle. The National Test Facility also supports the mission evolution of the Ballistic Missile Defense Organization from Theater Missile Defense to a more general support for theater commanders (warfighters), using the full capabilities of space assets.

National Test Facility computational resources are employed on both classified and unclassified network and stand-alone system activities. The classified systems not only serve the many classified programs within the National Test Facility, but are also available to serve other Ballistic Missile Defense programs via an existing wide area network. The unclassified network is separate and is mainly used for administrative and program management functions. The National Test Facility information technology system supports intensive batch-processed simulators, analysis support tools and real time interactive, distributed wargaming. The National Test Facility is also a subscriber to the Defense Interactive Simulation and the Warbreaker networks.

The National Test Facility Information Technology system includes two Cray 2s, one Cray 6400 Superserver, one SUN SPARC Center 2000, one IBM RS 6000 with NSL Unitree, three DEC VAX 88XX computers, 59 Sun file servers, 158 NCD workstations, and 91 Silicon Graphics development workstations. The system also includes the wide area network and local area network communications equipment, computer terminal (local and remote) equipment and over 1,200 software products.

F. Program Accomplishments and Plans:

1. FY 1994 Accomplishments: Completed buy-out of automated data processing equipment being depreciated.
2. FY 1995 Planned Program: Current budget figures are designed to continue operations and maintenance of National Test Facility information technology infrastructure. However, the current plans do not support the modernization of the National Test Facility's supercomputer capabilities. Modernization is needed because Cray Research is retiring and will no longer support all Cray 2 software and operating systems in September, 1995.
3. FY 1996 Planned Program: Continue operations and maintenance of National Test Facility information technology infrastructure.
4. FY 1997 Planned Program: Continue operations and maintenance of National Test Facility information technology infrastructure.

G. Contract Information:

The National Test Bed Integration Contract (NTBIC), F19628-88-C-0012, Martin Marietta Corporation was awarded Jan 88 and will be completed Jan 95. This contract has been rebaselined several times within the existing budget. The contract covers development of the National Testbed Facility, a task considerably beyond the original scope of the existing contract.

Selection of two (2) follow-on contractors was completed in the first quarter of FY95. The National Test Facility Research & Development Contract, F05604-95-D-9001, will commence on or about 1 February 1995. The National Test Facility Operations & Maintenance Contract, F05604-95-C-9001, will commence in March, 1995.

H. Comparison with FY 1995 Description Summary:

1. Technical Changes: Maturation of support contractors - from one all-encompassing facility/capability development contractor to two support contractors - one for Research & Development and another for Operations & Maintenance.
2. Schedule Changes: None.
3. Cost Changes: None.